

**REMARKS**

The Official Action dated December 3, 2003 has been received and its contents carefully reviewed. In view thereof, claims 17, 18, 45, 47, 49 and 52 have been amended in order to better define that which Applicants regard as the invention, and claim 44 has been cancelled. Thus, claims 17-29 and 45-60 are now pending in the instant application.

Referring now to the Official Action, particularly paragraph 3 thereof, claims 17-29 and 44-60 have been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,335,546 issued to Tsuda et al. In view of the amendments to the claims above and the comments provided below, Applicants respectfully traverse this rejection.

The Tsuda patent, as discussed in the previous response, is directed to a GaN semiconductor layer in which a depression formed by etching and a lateral surface of a projection are substantially vertical to the main surface of a substrate.

On the other hand, the presently claimed invention, as set forth in independent claim 17, is directed to a method for the manufacture of a semiconductor device comprising: a step of preparing a substrate in which, on a surface thereof, a depression is formed having a triangle or hexagonal figure when viewed from the substrate normal; and a step of forming on said surface of said substrate a semiconductor layer having a hexagonal crystal structure, whereby said depression is filled by said semiconductor layer, wherein said depression forming step is intentionally performed such that an inside face of said depression is defined by either a plane having a plane orientation of  $(1, -1, 0, n)$ , where said number  $n$  is an arbitrary number other than 0, or its equivalent plane, and wherein defects in said second semiconductor layer are concentrated in the direction of the center of said depression. Independent claims 18 and 48 have also been amended to include a feature which states that defects in said second semiconductor layer are concentrated in the direction of the center of said depression.

Additionally, the subject matter of claim 45 has been placed into independent form and amended to include a feature which states that a depression is flatly filled by said second semiconductor layer, wherein defects in said second semiconductor layer are radiated around said projection. The subject matter of claim 47 has also been placed into independent form and amended to include a feature which states that a projection is capped with said semiconductor layer wherein defects in said second semiconductor layer are radiated around

said projection. Similarly, claim 52 has been amended to include subject matter which states that defects in said second semiconductor layer are radiated around said projection. The Tsuda patent does not disclose or suggest the combination of features set forth within independent claims 17, 18, 45, 47, 49 and 52.

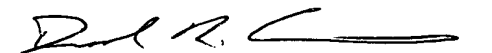
For example, Applicants respectfully submit that Tsuda does not disclose that defects in said second semiconductor layer are concentrated in the direction of the center of said depression, as now set forth in claims 17, 18 and 49. Additionally, Applicants respectfully submit that there is no disclosure within Tsuda in which a depression is flatly filled by said second semiconductor layer, wherein defects in said second semiconductor layer are radiated around said projection, as now recited in claim 45. Furthermore, Tsuda does not disclose that a projection is capped with said semiconductor layer, wherein defects in said second semiconductor layer are radiated around said projection, as now recited in claim 47. Moreover, Applicants respectfully submit that there is no disclosure in which defects in said second semiconductor layer are radiated around said projection, as recited in independent claim 52. In view of the various claimed methods of manufacture in accordance with the present invention, a low number of defects can be realized in a region above the projection or a region other than a region above the depression.

On the other hand, the Tsuda patent, as only discussed with respect to example 12, is generally able to suppress defects in a semiconductor layer by terminating lattice defects in a cavity generated in a depression. However, there appears to be no disclosure indicating that defects are concentrated in the direction of the center of the depression, which is filled by a semiconductor layer, or defects are radiated around the projection capped by the semiconductor layer, as variously recited in the independent claims.

Therefore, it is respectfully requested that the rejection of record be reconsidered and withdrawn by the Examiner, that claims 17-29 and 44-60 be allowed and that the application be passed to issue.

Should the Examiner believe a conference would be of benefit in expediting the prosecution of the instant application, he is invited to telephone counsel to arrange such a conference.

Respectfully submitted,



Donald R. Studebaker  
Reg. No. 32,815

Nixon Peabody LLP  
401 9<sup>th</sup> Street N.W.  
Suite 900  
Washington, D. C. 20004  
(202) 585-8000